

**UNITED STATES DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE**

**ECOLOGICAL SITE DESCRIPTION**

**ECOLOGICAL SITE CHARACTERISTICS**

**Site Type:** Rangeland

**Site ID:** R039XB017NM

**Site Name:** Mountain Breaks

**Precipitation or Climate Zone:** 14 to 18 inches

**Phase:**

## **PHYSIOGRAPHIC FEATURES**

### **Narrative:**

This site occurs generally on strongly sloping to very steep topography and is characteristically associated with abrupt interruptions on the terrain. Rock outcrops and ledges are mixed with nearly level benches and occasionally areas of gentle to moderately steep slopes. Elevations vary greatly, ranging upward from just over 6,000 feet above sea level.

### **Land Form:**

1. Beaks
2. Mountain slope
- 3.

### **Aspect:**

1. N/A
- 2.
- 3.

	<b>Minimum</b>	<b>Maximum</b>
<b>Elevation (feet)</b>	6,000+	8,700
<b>Slope (percent)</b>	10	40
<b>Water Table Depth (inches)</b>	N/A	N/A
<b>Flooding:</b>	<b>Minimum</b>	<b>Maximum</b>
<b>Frequency</b>	N/A	N/A
<b>Duration</b>	N/A	N/A
<b>Ponding:</b>	<b>Minimum</b>	<b>Maximum</b>
<b>Depth (inches)</b>	N/A	N/A
<b>Frequency</b>	N/A	N/A
<b>Duration</b>	N/A	N/A

### **Runoff Class:**

Negligible to medium.

## **CLIMATIC FEATURES**

### **Narrative:**

Average annual precipitation varies from approximately 14 to 18 inches, depending upon where the site is found. Year to year fluctuations in precipitation are common. Half or more of the precipitation occurring during the late fall through early spring period, often in the form of snow. The balance of the precipitation falls typically from mid June through September and is characterized by short-duration, high intensity thunderstorms.

The average frost-free season is about 103 days but is highly variable from location to location. The last killing frost in the spring occurs about June 1<sup>st</sup>, and the first killing frost in the fall normally occurs by October 1<sup>st</sup>. Lighter frosts may occur anytime in June and again in late August or early September. Average annual air temperature is about 50 degrees F. Monthly average air temperatures vary from 30 degrees F in January to just under 70 degrees F in August.

Both the air temperature and moisture regimes of this climate favor cool-season vegetation.

Climate data was obtained from <http://www.wrcc.sage.dri.edu/summary/climsmnm.html> web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

	<b>Minimum</b>	<b>Maximum</b>
<b>Frost-free period (days):</b>	81	112
<b>Freeze-free period (days):</b>	105	133
<b>Mean annual precipitation (inches):</b>	14	18

### **Monthly moisture (inches) and temperature (°F) distribution:**

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.79	1.00	11.1	48.2
February	.74	.81	15.0	51.6
March	.70	.85	18.3	58.3
April	.45	.65	22.3	66.4
May	.50	.56	28.5	74.5
June	.60	.74	36.3	83.6
July	2.37	2.99	46.7	84.3
August	3.15	3.29	45.5	81.1
September	1.81	2.01	37.8	77.8
October	1.15	1.57	26.5	68.8
November	.48	.84	16.3	57.3
December	1.03	1.21	11.2	49.8

**Climate Stations:**

Station ID		Location		Period	
				From:	To:
290818		Beaverhead Ranger Station, NM		01/01/39	12/31/00
295273		Luna Ranger Station, NM		01/01/14	12/31/00
294375		Jewett Ranger Station, NM		01/01/33	09/30/67

**INFLUENCING WATER FEATURES****Narrative:**

This site is not influenced by water from a wetland or stream.

**Wetland description:**

System	Subsystem	Class
N/A		

**If Riverine Wetland System enter Rosgen Stream Type:**

N/A

**REPRESENTATIVE SOIL FEATURES****Narrative:**

Soils are shallow to moderately deep and may be gravelly or cobbly sandy loams, fine sandy loams or loams. Parent material is variable, ranging from sandstone to volcanic tuff. Runoff is medium to rapid, permeability is moderate to rapid, and available water-holding capacity is very low to low.

**Parent Material Kind:** Alluvium

**Parent Material Origin:** Mixed

**Surface Texture:**

1. Sandy loams
2. Fine sandy loams
3. Loams

**Surface Texture Modifier:**

1. Gravel
2. Cobble
3.

Subsurface Texture Group: LoamySurface Fragments  $\leq 3''$  (% Cover): 15 to 35Surface Fragments  $> 3''$  (% Cover): 15 to 35Subsurface Fragments  $\leq 3''$  (%Volume): 15 to 35Subsurface Fragments  $\geq 3''$  (%Volume): 15 to 35

	Minimum	Maximum
Drainage Class:	Well	Well
Permeability Class:	Moderate	Rapid
Depth (inches):	5	60
Electrical Conductivity (mmhos/cm):	N/A	N/A
Sodium Absorption Ratio:	N/A	N/A
Soil Reaction (1:1 Water):	N/A	N/A
Soil Reaction (0.1M CaCl <sub>2</sub> ):	N/A	N/A
Available Water Capacity (inches):	0	6
Calcium Carbonate Equivalent (percent):	N/A	N/A

## **PLANT COMMUNITIES**

### **Ecological Dynamics of the Site:**

### **Plant Communities and Transitional Pathways (diagram)**

**Plant Community Name:** Historic Climax Plant Community

**Plant Community Sequence Number:** 1 **Narrative Label:** HCPC

**Plant Community Narrative:** Historic Climax Plant Community

This site supports a mixed grass/shrub community, with some trees. Cool-season grasses predominate slightly, although warm-season species such as deergrass, bullgrass, blue grama, and little bluestem are highly noticeable. Pinyon and juniper are common, as are occasional ponderosa pine. Exposure is definitely a factor, with tree and shrub species occurring more frequently on the cooler, moister slopes.

Canopy Cover:

Trees, shrubs and half-shrubs 10 %

Ground Cover (Average Percent of Surface Area).

Grasses & Forbs 20

Bare ground 20

Surface gravel 10

Surface cobble and stone 30

Litter (percent) 10

Litter (average depth in cm.) 2

**Plant Community Annual Production (by plant type):** \_\_\_\_\_

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	431	572	713
Forb	35	46	57
Tree/Shrub/Vine	115	153	190
Lichen			
Moss			
Microbiotic Crusts			
Total	575	763	950

**Plant Community Composition and Group Annual Production:****Plant Type - Grass/Grasslike**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	BOGR2	Blue Grama	114 – 153	114 – 153
2	POFE KOMA	Muttongrass Prairie Junegrass	76 – 153	76 – 153
3	PIFI BLRT	Pinyon Ricegrass Pine Dropseed	23 – 61	23 – 61
4	MUMO ERIN ACHNA	Mountain Muhly Plains Lovegrass Needlegrass spp.	38 – 114	38 – 114
5	ELEL5	Bottlebrush Squirreltail	23 – 38	23 – 38
6	FEAR2	Arizona Fescue	38 – 76	38 – 76
7	MURI2 MUEM	Deergrass Bullgrass	38 – 114	38 – 114
8	SCSC BROMU ANGE BOCU	Little Bluestem Brome spp. Big Bluestem Sideoats Grama	23 – 61	23 – 61
9	2GRAM	Other Grasses	23 – 38	23 - 38

**Plant Type - Forb**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
10	2FP	Perennial Forbs	8 – 23	8 – 23
11	2FA	Annual Forbs	8 – 23	8 – 23

**Plant Type – Tree/Shrub/Vine**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
12	PIED JUNIP	Pinyon Pine Juniper spp.	38 – 114	38 – 114
13	RHTR CEMOP RICE QUERC	Skunkbush Sumac Hairy Mountainmahogany Wax Current Oak spp.	38 – 76	38 – 76
14	2SD	Other Shrubs	8 – 38	8 - 38

**Plant Type - Lichen**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

**Plant Type - Moss**



Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

### **Plant Type - Microbiotic Crusts**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Other species include: wolftail, threeawn spp., spike muhly, ponderosa pine, fringed sagewort, winterfat, ocean-spray or rock spirea, southwestern chokecherry, manzanita, and rarely Apacheplume.

### **Plant Growth Curves**

**Growth Curve ID**    1307NM

**Growth Curve Name:**    HCPC

**Growth Curve Description:**    Mixed grass/shrub community with some trees. Cool-season grasses predominate.

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	3	5	10	10	25	30	12	5	0	0

## **ECOLOGICAL SITE INTERPRETATIONS**

### **Animal Community:**

#### Habitat for Wildlife:

This site provides habitats which support a resident animal community that is characterized by deer, mountain lion, black bear, bobcat, gray fox, ringtail, porcupine, eastern cottontail, cliff chipmunk, rock squirrel, canyon mouse, Stephen's woodrat, golden eagle, red-tailed hawk, prairie falcon, great horned owl, screech owl, harlequin quail, red-shafted flicker, Cassin's kingbird, scrub jay, rufous-sided towhee, chipping sparrow, southern plateau fence lizard, New Mexico garter snake, and black-tailed rattlesnake.

Elk and Merriam's turkey range into the site and Rocky Mountain bighorn sheep are adapted to it. Violet-green swallow and purple martin nest, and gray-headed junco winters. During years of high pinyon nut or acorn mast production, band-tailed pigeon may be found on the site.

Where the site occurs adjacent to riparian habitats, Allen's big-eared bat, Arizona gray squirrel, raccoon, osprey, great blue heron, Gambel's quail, roadrunner, belted kingfisher, vermilion flycatcher, red-winged blackbird, tiger salamander, leopard frog, Woodhouse's toad, tree lizard, Great Plains skink and black-necked garter snake hunt, perch or burrow on the site.

### **Hydrology Functions:**

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

#### **Hydrologic Interpretations**

<b>Soil Series</b>	<b>Hydrologic Group</b>
Ustochrepts-Rock outcrop complex	?

### **Recreational Uses:**

This site offers fair to good potential for hiking, horseback riding, nature observation and photography, especially for those who prefer the more arduous aspect of these activities. Hunting possibilities are good for mule deer and fair for wild turkey, while the site is generally too rugged for picnicking and camping. The rugged character of the general landform, on the other hand, enhances natural beauty.

**Wood Products:**

This site has a limited potential for fence post and firewood production. Harvesting is difficult due to the relative inaccessibility of the site and should not be recommended on any wholesale basis without very careful study before hand of the individual situation. Ponderosa pine production is generally insignificant on this site.

**Other Products:****Grazing:**

Eighty percent or more of the annual vegetation produced on this site comes from plants that produce forage for grazing or browsing animals, with particular suitability for browsers. For domestic livestock, such as cattle, accessibility to steeper slopes may be extremely limited, thus forcing the animals to favor less sloping areas and adjacent sites. For this reason, stocking must be carefully adjusted in pastures, which have significant amounts of this site, and use of other species of livestock such as goats might be helpful in maintaining a healthy balance of woody and herbaceous plants. Where the latter is either undesirable or impractical, native wildlife species can be encouraged to a point that optimum use is made of the browse resource. Yearlong, heavy use by livestock should be avoided; however, as this tends to create a decline in range condition, increase erosion, and reduce range productivity. A system of deferment, coupled with proper stocking, where pastures are not grazed in the same season year after year will help to maintain a good balance of plants in the plant community.

**Other Information:****Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month**

<b>Similarity Index</b>	<b>Ac/AUM</b>
100 - 76	5.0 – 8.0
75 – 51	7.0 – 10.0
50 – 26	9.0 – 20.0
25 – 0	20.0+

Plant Part	Code	Species Preference	Code
Stems	S	None Selected	NS
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruits/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

**Plant Preference by Animal Kind:**

**Animal Kind:** Livestock

**Animal Type:** Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Muttongrass	<i>Poa fendleriana</i>	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Bottlebrush Squirreltail	<i>Elymus elymoides</i>	EP	U	U	D	D	D	U	U	U	D	D	D	U
Prairie Junegrass	<i>Koeleria macrantha</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Pinyon Ricegrass	<i>Piptochaetium fimbriatum</i>	EP	P	P	P	P	P	P	P	P	P	P	P	P
Pine Dropseed	<i>Blepharoneuron tricholepis</i>	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Mountain Muhly	<i>Muhlenbergia montana</i>	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Needlegrass	<i>Achnatherum</i> spp.	EP	D	D	D	D	D	D	D	D	D	D	D	D
Arizona Fescue	<i>Festuca arizonica</i>	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Deergrass	<i>Muhlenbergia rigens</i>	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Bullgrass	<i>Muhlenbergia emersleyi</i>	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Little Bluestem	<i>Schizachyrium scoparium</i>	EP	D	D	D	P	P	P	P	D	D	D	D	D
Big Bluestem	<i>Andropogon gerardii</i>	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Sideoats Grama	<i>Bouteloua curtipendula</i>	EP	P	P	P	P	P	P	P	P	P	P	P	P
Spike Muhly	<i>Muhlenbergia wrightii</i>	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Winterfat	<i>Krascheninnikovia lanata</i>	L/S	D	D	P	P	P	P	P	P	D	D	D	D
Hairy Mountainmahogany	<i>Cercocarpus montanus</i>	L/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

**Animal Kind:** Livestock

**Animal Type:** Horses

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Muttongrass	Poa fendleriana	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Prairie Junegrass	Koeleria macrantha	EP	D	D	D	D	D	D	D	D	D	D	D	D
Pinyon Ricegrass	Piptochaetium fimbriatum	EP	P	P	P	P	P	P	P	P	P	P	P	P
Pine Dropseed	Blepharoneuron tricholepis	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Mountain Muhly	Muhlenbergia montana	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Needlegrass	Achnatherum spp.	EP	D	D	D	D	D	D	D	D	D	D	D	D
Arizona Fescue	Festuca arizonica	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Deergrass	Muhlenbergia rigens	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Bullgrass	Muhlenbergia emersleyi	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	P	P	P	P	D	D	D	D	D
Big Bluestem	Andropogon gerardii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Spike Muhly	Muhlenbergia wrightii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Winterfat	Krascheninnikovia lanata	L/S	D	D	P	P	P	D	D	D	D	D	D	D
Hairy Mountainmahogany	Cercocarpus montanus	L/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

**Animal Kind:** Wildlife

**Animal Type:** Elk

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Muttongrass	Poa fendleriana	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Prairie Junegrass	Koeleria macrantha	EP	D	D	D	D	D	D	D	D	D	D	D	D
Pinyon Ricegrass	Piptochaetium fimbriatum	EP	P	P	P	P	P	P	P	P	P	P	P	P
Pine Dropseed	Blepharoneuron tricholepis	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Mountain Muhly	Muhlenbergia montana	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Needlegrass	Achnatherum spp.	EP	D	D	D	D	D	D	D	D	D	D	D	D
Arizona Fescue	Festuca arizonica	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Deergrass	Muhlenbergia rigens	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Bullgrass	Muhlenbergia emersleyi	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	P	P	P	P	D	D	D	D	D
Big Bluestem	Andropogon gerardii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Spike Muhly	Muhlenbergia wrightii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Winterfat	Krascheninnikovia lanata	L/S	D	D	P	P	P	D	D	D	D	D	D	D
Hairy Mountainmahogany	Cercocarpus montanus	L/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

**Animal Kind:** Wildlife

**Animal Type:** Deer

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Oak	Quercus spp.	L/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Hairy Mountainmahogany	Cercocarpus montanus	L/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Perennial Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Annual Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Winterfat	Krascheninnikovia lanata	L/S	P	P	P	P	P	P	P	P	P	P	P	P

## **SUPPORTING INFORMATION**

### **Associated sites:**

Site Name	Site ID	Site Narrative

### **Similar sites:**

Site Name	Site ID	Site Narrative

### **State Correlation:**

This site has been correlated with the following sites: \_\_\_\_\_

### **Inventory Data References:**

Data Source	# of Records	Sample Period	State	County

### **Type Locality:**

State: New Mexico

County: Catron, Grant, Sierra, Socorro

Latitude: \_\_\_\_\_

Longitude: \_\_\_\_\_

Township: \_\_\_\_\_

Range: \_\_\_\_\_

Section: \_\_\_\_\_

Is the type locality sensitive?    Yes ☐            No ☐

General Legal Description: \_\_\_\_\_

### **Relationship to Other Established Classifications:**

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### **Other References:**

Data collection for this site was done in conjunction with the progressive soil surveys within the Arizona and New Mexico Mountains 39 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys : Socorro, Catron, Sierra and Grant.

### **Characteristic Soils Are:**

Ustochrepts-Rock outcrop complex	
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### **Other Soils included are:**

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### **Site Description Approval:**

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Don Sylvester		Don Sylvester	

### **Site Description Revision:**

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Elizabeth Wright	05/14/02	George Chavez	2/12/03